CLAIMS

1. Stator for a hydrodynamic torque converter with stator elements, consisting of a stator hub, vanes mounted thereon, and a stator rim, which connects the vanes to each other in the radially outer area, characterized in that the stator elements (30) are obtainable from a common blank (32) by the formation of different groups (34) of stator elements in the form of hub segments (36), vanes (17), and rim segments (38), in that at least some of the groups (34) of stator elements are freed from each other by means of separation operations, and in that at least some of the groups (34) of stator elements are subjected to deformation processes which bend them from the original plane of the blank (40) into a new, different plane of extension (42, 44, 46).

2. Stator according to Claim 1 with a center axis, characterized in that, upon completion of the separation and deformation processes, the groups (34) of stator elements, in their new planes of extension (42, 44, 46), are lined up in rows with one another in the circumferential direction along lines of curvature (50, 52) which encircle the center axis (48), each at specific distances (R1, R2) therefrom.

3. Stator according to Claim 1 and Claim 2, characterized in that the hub segments (36) forming one of the groups (34) of stator elements are lined up in a row in the circumferential direction, and in that at least one abutting end (54) of each hub segment (36) is connected to at least one abutting end (56) of another hub segment (36) to form the segmented stator hub (58).

4. Stator according to Claim 3, characterized in that the abutting ends (54, 56) of the stator hub segments (36) are connected to each other by welds.

5. Stator according to Claim 3, characterized in that the circumferential ends (112, 114) of the segmented stator hub (58) form abutting ends (65, 67) by which they are connected to each other.

6. Stator according to one of Claims 1-5, characterized in that the group (34) of stator elements consisting of the rim segments (38) has a shroud (39), which connects the individual rim segments (38) to each other in the circumferential direction, which shroud, together with the rim segments (38), forms the stator rim (19) when the abutting ends (62, 64) provided at the circumferential ends (112, 114) are connected to each other.

7. Stator according to one of Claims 1-6, characterized in that the segmented stator hub (58), the stator rim (19), and the vanes (17) located between them form vane areas (96), and in that the segmented stator hub (58) of at least one vane area (96) is connected to a base body hub (60) to produce the stator hub (15).

8. Stator according to Claim 7, characterized in that the minimum of one vane area (96) surrounds at least part of the circumference of the base body hub (60).

9. Stator according to Claim 7 or Claim 8, characterized in that the minimum of one segmented stator hub (58) is attached by spot welds (98) to the base body hub (60).

10. Stator according to one of Claims 7-9, characterized in that the base body hub (60) and the segmented stator hub (58) are connected to each other by a retaining device

(61), which prevents them from moving with respect to each other in the circumferential direction and/or in the axial direction and therefore, for attachment to each other they only require at least the connection at the abutting ends of (65, 67) of the segmented stator hub (58).

11. Stator according to Claim 10, characterized in that the stator rim (19) is also connected at its abutting ends (62, 64) in coordination with the retaining device (61).

12. Stator according to Claim 10 or Claim 11, characterized in that the connection between the abutting ends (62, 64) of the stator rim (19) and the connection between the abutting ends (65, 67) of the segmented stator hub (58) are produced by welding.

13. Stator according to Claim 12, characterized in that the welding operation takes the form of spot-welding (99).

14. Stator according to one of Claims 10-13, characterized in that the retaining device (61) is formed by a profiled channel (102) in the outer circumference (100) of the base body hub (60), in which channel the segmented stator hub (58), which is formed with correspondingly profiled axial edges (104), positively engages.

15. Stator according to Claim 1, characterized in that the individual groups (34) of stator elements are subjected to plastic deformation to bend them into their new planes of extension (42, 44, 46).

16. Stator according to Claim 15, characterized in that the stator hub segments (36) or the stator rim segments (38) are deformed in an essentially plastic manner to conform to their lines of curvature (50, 52), which extend in the circumferential direction around, and a

certain distance (R1, R2) away from, the center axis (48), and in that the vanes (17) are deformed in an essentially plastic manner to conform to their intended curvature in the axial and/or radial direction of extension.

17. Stator according to one of Claims 1-16, characterized in that, with respect to their planes of extension (42, 44, 46), the stator hub segments (36) are essentially perpendicular to the vanes (17) and the vanes are essentially perpendicular to the stator rim segments (38).

18. Stator according to one of Claims 1-17, characterized in that one of the abutting ends (54, 56) of each of the stator hub segments (36) has a circumferential trailing lip (66) for the vane (17) which follows the hub segment in question in the circumferential direction, where the circumferential trailing lip (66) has a corresponding receiving area (68) on the side designed to receive this vane (17).

19. Stator according to one of Claims 1-18, characterized in that each of the stator hub segments (36) has a compensating opening (70) to accommodate, over a certain range of angles around the center axis (48), the difference between the circumferential length of the segmented stator hub (58) and that of the stator rim (19), where this compensating opening (70) is intended to receive an engaging projection (72) of the stator hub segment (36) which precedes it in the circumferential direction.

20. Stator according to one of Claims 1-19, characterized in that each of the stator hub segments (36) has a first bending line (74) adjacent on one side to the end of the circumferential trailing lip (66) facing the vane (17) and adjacent on the other side to the

compensating opening (70), around which line the vane (17) assigned to this stator hub segment (36) is bent.

21. Stator according to one of Claims 1-20, characterized in that, on the side facing away from the associated stator hub segment (36), the vane (17) has a second bending line (76) around which it can be bent with respect to the stator rim segment (38), but is separated by a separation line (78) from an overlap area (80) of the stator rim segment (38) which precedes it in the circumferential direction.

22. Stator according to Claim 21, characterized in that the axial distance between the flow inlet edge (82) of the vane (17) assigned to a particular stator rim segment (38) and the flow outlet edge (84) of the vane (17)) preceding it in the circumferential direction is determined by the overlap area (80).

23. Stator according to one of Claims 1-22, characterized in that, during the deformation operations to which the blank (32) is subjected, the stator hub segments (36) are bent relative to the vanes (17) in a first pivot direction (B1) around the first bending line (74) into the new plane of extension (42), while the stator rim segments (38) are bent in an opposite, second pivoting direction (B2) around the second bending line (76) into their new plane of extension (46).

24. Stator according to Claim 7 or Claim 8, characterized in that the minimum of one segmented stator hub (58) is attached to the base body hub (60) by brazing or by adhesive bonding.